

ULTRASONIC DIAGNOSTIC IMAGING SYSTEM WITH  
AUTOMATIC CONTROL OF PENETRATION, RESOLUTION AND  
FRAME RATE

5      Abstract of the disclosure:

An ultrasonic diagnostic imaging system and method are presented in which the balance between image resolution and frame rate (Res/Speed) and the balance between image resolution and penetration (Pen/Gen/Res) are automatically adjusted in response to image content. A motion detector analyzes the relative motion between successive images. If the motion content is relatively high, the imaging parameters are changed in favor of relatively greater frame rate and reduced resolution. A low motion content causes the opposite adjustment. The electronic noise between successive images is also computed with a relatively high noise content (low correlation) in the far field resulting in an adjustment to penetration as by lowering the transmit frequency. A relatively low noise content causes an adjustment in favor of increased resolution.